

cidences between changes in terrestrial phenomena and the modifications in solar activity might be due to chance—that is, to forces of which we possess no knowledge or conception. But when we compare the different and concurrent results which this exposition has presented we are compelled to conclude a definite relation of cause and effect in accordance with an important and established canon of inductive inference — that " whatever phenomenon varies in any manner whenever another phenomenon varies in some particular manner, is either a cause or an effect of that phenomenon, or is connected with it through some fact of causation." (*Mill's System of Logic*, Vol. I, Book III, cap. viii, § 6.)

The mode in which the depressions and disturbances of trade are produced (equally with its excited and exaggerated forms) may be reasonably suggested. The motive power in the activities of commerce is the feelings—mainly, the desire to amass wealth and the desire to avoid losses—and the feelings are undoubtedly affected in a marked degree by the nervous condition of the body: the spring of hope and energy produced by a bright sunny day is a familiar experience. Indeed, many scientists (including, if my memory be accurate, so practised a scientific thinker as Sir John Herschel)—and the hypothesis is strictly within the range of scientific conceptions—have suggested that the brain is a voltaic pile, and each of its pulsations a discharge of electricity through the frame, the sensations experienced by the hand from the beatings of the brain being similar to a voltaic shock. Hence a disturbance in the electric condition of the earth involves in many persons the form of nervous derangement known as a headache. A sense of vigorous energy issues from hopeful and sanguine feelings (resultant from the corporal condition), and manifests itself in activity of trade, while a dullness and despondency of spirits depress the courage, resourcefulness and enterprise on which enlarged trading depends. And these feelings become intensified beyond the range of their original cause when, as

in trading, they embrace, from sympathy,
a mass of minds. Nor must it be
forgotten that the vigour of the human
brain and frame—as the instrument of
influence upon the feelings and resulting
acts—is dependent ultimately,